TMF

July 1988

THE MAC FLYER - For Greater Safety in MAC Air Operations

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21 AF Commander . . . On Safety

AF Photo by Denise Remeta

Maj. Gen. Donald A. Logeais

It's a real pleasure to be able to talk with MAC flyers about safety. I believe there is a misconception about our safety programs, assistance visits, and the charter given our safety people. I want to try to change those misconceptions so allow me to indulge just a bit!

If "safety" is a term that strikes fear into the hearts and minds of men and women, or if people view safety as a group of inspectors nosing around trying to get people in trouble for not complying with "the rules," or as more of an evaluation function than an assistance function, then we need to reorder our priorities.

At one time those concepts may very well have been true, but you need to know that's neither the charter I've given safety officers and NCOs throughout 21 AF, nor the way to interpret guidance from CINCMAC. Our safety people are there to assist you in the performance of your duties with any safety-related problems which may hurt people, cause damage to equipment, or in any way adversely impact our everyday mission. Have you ever heard the comment, "I wouldn't do it this way if Safety were here?" This attitude is dead wrong. Our safety people are your friends. Use them to make your job and work environment better.

Now that I've got your attention, let's deal with an apparent developing trend concerning awareness in your work environment. We commonly call it "situational awareness." From the time you arrive at your aircraft until you're safely tucked away on the crew bus, each and every crewmember must be aware of what is going on around him or her, and this applies to all crew positions, from the flight examiner right down to the unqualified student. Each is important; each must be continually vigilant. This knowledge of one's position is the essence of situational awareness.

Your ears are also a part of the situational awareness picture. We recently experienced an event where two aircraft were on a direct collision course. By listening to position reports of other aircraft and estimates for future points, this aircrew determined they would be arriving at the same point, at the same time, and at the same altitude as another aircraft! An altitude change was requested and a dangerous situation averted.

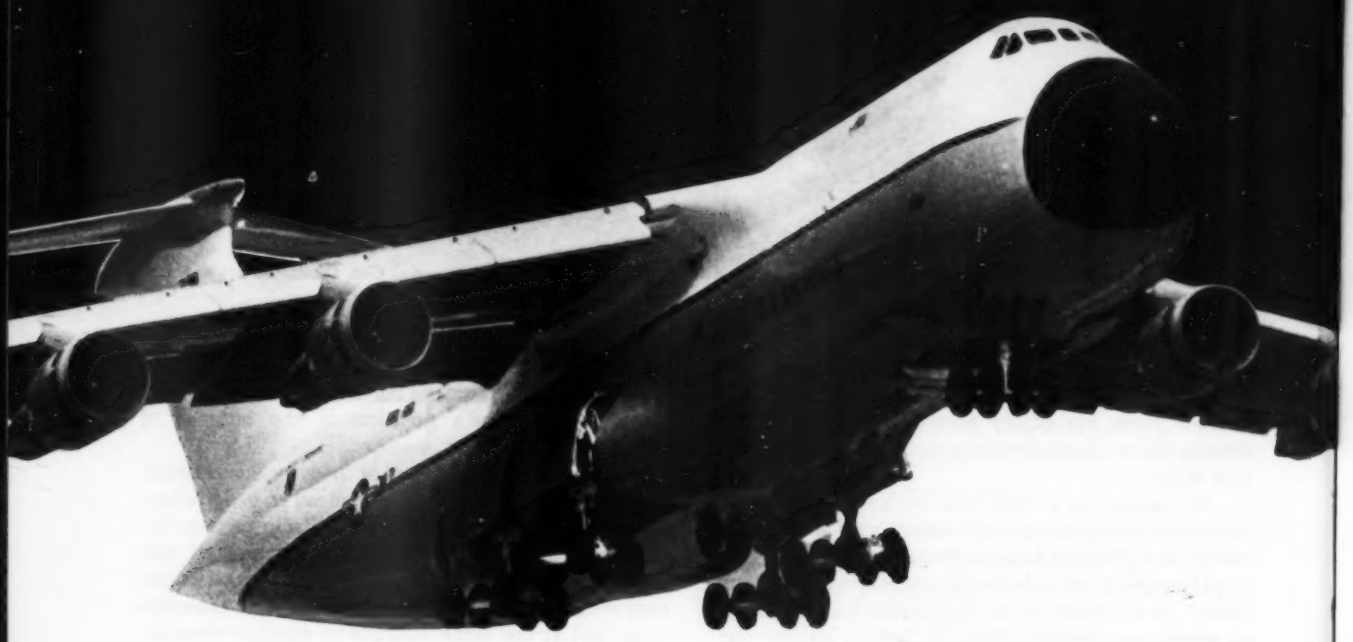
Cerebral rectitus or "Head up and locked" is the direct antithesis of situational awareness. To avoid it, we've developed a training block that by now all you aircrew types should have experienced. Entitled Aircrew Coordination Training (ACT), it is designed to make you aware of what's going on around you in the cockpit and how it affects you and the aircraft operation. We will continue to look for positive methods of reinforcement. Situational awareness may sound like a buzz word, but when adhered to, it can and will prevent aircraft mishaps. That's what we are all about.

Keep up that positive flying attitude, and continue to maintain those high standards you demonstrate on a daily basis. Believe me, our business demands it.

Donald A Logeais

A Flirt With Disaster

Why do we hesitate to *"Stop"* the mission?



By Lt. Col. Louis Hari
907 TAG, Rickenbacker ANGB, Ohio

It was 0700 Christmas Day 1972 when the ringing phone woke me. The caller said, "Captain, this is squadron operations. Consider yourself to be in 12-hour predeparture crew rest. You can expect to be alerted at 1900 this evening for an emergency supply mission to Managua, Nicaragua. It's supposed to be a one-day mission but you'll want to pack for a few days just in case it turns out to be longer."

Managua had suffered a devastating earthquake just a few days earlier and MAC was tasked to support our government's emergency assistance. Although not yet fully awake, a few quick thoughts came to mind. I decided I had 12 hours of Christmas left to spend with my family and I was going to make the most of it. I saw

First Place 1988 MAC Flight Safety Writing Contest

no need to spoil it by telling them I had to leave.

Christmas 1972 was a special one for my family. I'd spent the previous three Christmases in Southeast Asia and now, at last, we were going to have one together. We'd spent weeks planning for it. My wife's parents had traveled across the miles on Christmas Eve to spend the holiday with us so the day was to be even more special.

The phone call woke our two young daughters and they immediately went downstairs to see what Santa had brought. Christmas Day had started a bit earlier than planned, but that didn't seem to matter. My wife probably knew but asked who had called, anyway. "Just a wrong number," I told her.

As the day progressed I started to mentally prepare for the mission. I slipped away for a few minutes to pack my B-4 bag. In the late afternoon, I was already starting to feel the effects of a hard day playing with my children. As evening approached I asked my wife if we could have our Christmas dinner a bit earlier than planned. "I'm really getting hungry," I told her. She rightly suspected I had another reason for the request. During dinner I also passed up the wine. Then she knew.

The timing was superb. I'd just finished my second cup of coffee after dessert, when precisely at 1900 the alert phone call came. It was squadron operations telling me I had a 2000 reporting time. I quickly changed into my flight suit, kissed my wife and children, and apologized to my in-laws for the sudden departure.

During the short drive to the base, I noted I was much more tired than I should have been before mission reporting. I wondered how my fellow C-5 crewmembers felt. Being Christmas Day, I assumed they would be just as tired. Upon arrival at squadron operations I was briefed I had an augmented crew and our 24-hour crew duty day had started at 2000 hours. Of course the assumption was we all had a restful 12 hours predeparture crew rest. But was that possible or even realistic on Christmas Day, especially with the surprise 0700 notification?

No. In reality we were all up and about during the past 12 or 13 hours enjoying Christmas with our families and friends. Maybe the augmented crew would help, I thought. By regulation, during our 24-hour crew duty day, each crewmember was to be able to get two, 4-hour periods of uninterrupted rest. We were soon to learn that was not to happen. This was not going to be the classic over-ocean MAC mission.

We departed Charleston AFB, South Carolina, on time at 2315 for a short 1-hour flight to The William B. Hartsfield Atlanta International Airport. There we were to file our flight plan to Managua after loading our cargo of commercial emergency communications equipment and support personnel. Filing an international flight plan at a large commercial airport turned out to be more than trivial. Word of our mission had gotten to the press—a C-5A at Hartsfield was difficult to hide, and we were interviewed by several reporters. At 0400 we were ready to start our 2.5-hour flight to Managua. The loadmasters told me they had to estimate the weight of our cargo since the communication vans contained equipment which could not be weighed. The cargo appeared to be evenly distributed in the cargo compartment and I knew that a 10,000-pound error would only change our TOLD card speeds one knot. I said, "No problem." I realized we hadn't had any substantial rest on the short flight to Atlanta nor during our hectic three hours on the ground there.

During our flight south we were busy navigating the unfamiliar non-channel route. According to my calculations, after a quick turn at Managua, we could be home with our families by noon. Our flight and landing were uneventful. While on the ground in Managua, we learned we were being diverted to Howard AFB to make multiple cargo shuttles between Howard and Managua. It was now 0700 and none of us had gotten any substantial rest during the previous 24 hours. I was tempted to declare we were unable to continue with the mission because of crew fatigue. I had every right to do so. Why didn't I? Maybe because I was told it was a "high priority mission;" or maybe because we still had 12 hours of our crew duty day remaining; or maybe because I wanted to prove we could hack the mission. I decided we would accomplish at least one shuttle.

After another uneventful and relatively short flight to Howard we were ready to load and refuel. I learned there were hundreds of tons of outsized, high priority cargo to move to Managua and two C-5As available to do it. Perhaps partly due to fatigue, *I let ambition overcome good sense.* I quickly calculated we could accomplish two shuttles in our remaining crew duty day. "Bring up the fuel load to 200,000 pounds," I instructed the flight engineer. "We're going to double shuttle and our crew duty day won't allow time for a second refueling today." I knew with our 75-ton cargo load, that fuel load would not over gross us and would allow a non refueling double shuttle. Had I been fully alert, I would have considered a few other things before ordering the fuel.

While filing at base operations, my flight engineer came to

see me. A bit out of breath, he told me that in an effort to minimize our ground time, he refueled the aircraft prior to computing takeoff and climb performance. "Sir, we don't have the required three-engine obstacle clearance performance at our gross weight," he told me. In a disappointed tone of voice, I told him to defuel down to the allowable weight and that we would only accomplish one shuttle.

Howard was busy that day and the defueling took several hours. By now my desire to hack the mission overwhelmed my ability to reason. The defueling took so long I had to request a 2-hour crew duty day extension to be able to recover back at Howard. It was approved.

Back out on the flight line, again due to fatigue, the situation was getting dangerous. One of the navigators dozed off while sitting on the aircraft stairs and nearly fell. One of the loadmasters tripped over a wheel chock and almost injured himself. Several of the crewmembers suggested we were too tired to fly safely and should go into crew rest. "It's a critical mission and we need to deliver our important cargo," I said while watching the other C-5 load up. Our cargo consisted of three bulldozers, each weighing 50 thousand pounds. The loadmasters loaded the aircraft at the extreme forward CG limit *(first critical error)*. They later apologized for doing that and attributed the error to fatigue. They completed the weight and balance form "F" and handed it to the flight engineer so he could complete the TOLD card. He noted the extreme forward CG condition, entered the stabilizer trim setting chart with it, and found a positive 11 degrees takeoff setting required for the nose heavy condition. Fatigue bit him too. When he transcribed the data to the TOLD card he reversed the sign and recorded minus 11 degrees for the stabilizer setting *(second critical error)*.

As the copilot, navigator, and I completed our mission planning at base operations and walked out to the aircraft, I noticed how compressed the nose gear strut appeared. A glance at the weight and balance form explained it. The flight engineer gave the TOLD card to my copilot so he might crosscheck it with his checklist tabulated data. Prior to strapping in, I asked the copilot if he had checked the engineer's TOLD card data. He said he did. The tabulated data had just been released to flightcrews and although he did check it for the speeds, he later told me he didn't know the takeoff stabilizer trim settings were tabulated and therefore didn't check it *(third critical error)*.

Prior to takeoff, I briefed that at our refusal speed of 130 kts, the copilot was to state, "Go." After that, *any* malfunction would be treated as an airborne situation since we had to continue our takeoff. (It's been 15 years and hundreds of takeoffs since that briefing and I've never given another one like it since.) Finally, with all checklists completed, Howard tower cleared us for takeoff. It was now 1600 and we were 21 hours into our extended 26-hour crew duty day. Much more significant was the fact that none of us had had any substantial rest in over 34 hours.

It was a clear, sunny day and we were taking off to the north. Since takeoff stabilizer trim settings are so critical for the C-5, as a final check prior to takeoff, the pilot is required to check the setting and compare it with the TOLD card. I did. Both were minus 11 degrees. As an experienced C-5 instructor pilot, I knew that the most negative stabilizer takeoff trim setting required for an extreme aft CG limit condition was only minus 1 degree. We had the trim set 10 degrees beyond the setting for an extreme aft CG condition and we were at an extreme nose forward CG condition. Why didn't I recognize that *(fourth critical error)*? I'm sure I would have—had I been fully alert.

Due to our heavy weight, it was a full takeoff rated thrust (TRT) power takeoff. As I released brakes and the aircraft started to accelerate, I gave myself an imaginary pat on the shoulder. We were doing it. We were hacking the mission. My feeling of accomplishment and self gratification quickly turned to one of horror. At 130 kts and with 2,000 ft of runway remaining, the copilot called "Go." I pulled the yoke back to the usual rotation position and when nothing happened, I pulled it back to the stop. Still, the nose wheel remained firmly on the runway. In the very few seconds I had available to analyze the problem and take action, two thoughts came to mind. First, I remembered the statement I made in the "before takeoff briefing" about continuing the takeoff after the "Go" call. Second, the only reason I could think the airplane wouldn't fly was that we were much heavier than we thought. Perhaps that was a flashback to our Atlanta takeoff when the loadmaster told me they had to estimate the cargo weight. I foolishly reasoned that if we could accelerate to a greater speed, we might be able to fly. With no words spoken in the cockpit, I put the yoke back to the neutral position and decided to give it one final try when the 1,000-foot remaining marker went by. That didn't take long and during that time we had accelerated another 10 knots. With the end of the runway clearly in sight, and with adrenalin pumping, I pulled full aft on the yoke. At first there was nothing, but then the aircraft slowly started to rotate to a

"There's something wrong with the airplane." I simply replied: "I know."

takeoff attitude. With the yoke still full aft and with flight control forces that must have been tremendous but went unnoticed, we became airborne. Still believing we had a weight problem, I started a shallow climb to avoid terrain but also to maintain flaps extended maximum speed to prevent a possible stall. I instinctively called for landing gear retraction while I trimmed back pressure off the yoke. We continued to climb straight ahead ignoring the SID we were cleared to fly. We were all "frozen" in the cockpit. It took several calls from departure control before we made the turn we were supposed to make. After what seemed like several minutes, the copilot broke the silence when he said, "There's something wrong with the airplane." I simply replied, "I know." The excitement snapped us out of our pre-takeoff condition and he called our attention to the obviously incorrect takeoff stabilizer trim setting. Problem solved. In the meantime we had a landing gear retraction malfunction, possibly due to the higher than usual speed at which we retracted the gear. So we lowered it and, when all wheels indicated down and locked, we prepared for our return to Howard. The aircraft was so nose heavy it required full aft travel of the yoke upon touchdown to prevent the nose gear from slamming onto the runway.

We went into our much overdue crew rest and our cargo was transferred to the other "still operating" C-5. At the Officer's Club that evening, when we all calmed down enough to discuss our extremely near mishap, I remember the words my navigator spoke to me as well as if he had spoken them yesterday. He was a senior lieutenant colonel with a lot more flying experience than I, and I had much respect for him. He said, "I admire your desire to hack the mission and to deliver the important cargo, but think of what you did today. You risked the lives of 13 crewmembers and nearly destroyed a valuable aircraft. The bulldozers were important but they wouldn't have done anyone any good if they ended up in the form of twisted iron and steel embedded in aircraft wreckage off the end of the runway."

The next day, mission complete and landing gear repaired, we headed home. It was a solemn flight with no unnecessary conversation. We were still shaken from the previous day. When we arrived back at Charleston, I reported the incident to my squadron commander and the safety officer as a lesson learned. Still curious, I went to the simulator and asked the instructor to set the simulator to the conditions we had at Howard. I then tried to take off. The simulator wouldn't fly. No matter how much runway or how fast it could go, it wouldn't fly.

As I frequently think back to that Christmas of 1972, I think of how the accident report would have read had we not been successful in our takeoff. It would have been a classic. It would have begged some of the same questions I still ask today. How did I allow my crew and myself to get into such a vulnerable position? Why didn't I declare crew rest when it became obvious we were incapable of safely continuing the mission? What was I trying to accomplish? Who was I trying to impress? Why didn't I listen to my crew when they urged me to go into crew rest? Wouldn't it have been better to have aborted the takeoff even after refusal speed, and risk going off the end of the runway at perhaps 10 or 20 knots, than to risk going off at 150 knots? Finally, what allowed the aircraft to fly in that nonflyable configuration? I can postulate several answers to all these questions but one.

When I arrived home I was greeted by my children. I gave them an extra big kiss and an extra long hug. I was glad to see them again. As usual, they asked if I had a fun flight. I replied, "Not as much as on the others." Ironically, that evening they asked me to explain how airplanes could fly. Before I started to explain, I reflected back on the takeoff from Howard the previous day and said, "There was one time when Daddy didn't know." ★

During eleven years of active duty, Lt. Col. Louis Hari flew C-130s for MAC, TAC, and PACAF at McGuire, Langley and Southeast Asia. He also flew C-5As at Charleston AFB. After separating, he became an Air Force employee working as an engineer in Aeronautical Systems Division, Wright-Patterson AFB. As a reservist, Colonel Hari is the 907 TAG's Director of Operations, C-130A flight examiner, and has accumulated over 7,000 flying hours.

Budget Cuts and Flight Safety

The view from the top.

General Duane H. Cassidy

The past few months have taken MAC, and the rest of DOD, through some turbulent moments. Unforeseen budget cuts and other issues have forced changes in the way MAC does business. General Duane H. Cassidy, Commander in Chief, Military Airlift Command, graciously took some time from his busy schedule to give *TMF* readers an assessment of how these issues affect MAC's mission and flight safety.

TMF—General Cassidy, we're experiencing major funding reductions in all areas. Focusing on mission and safe operations, could you tell us where these cuts will be felt most?

General Cassidy—I'd like to assure everyone we're not going to let budget cuts affect safe operations. We're being very cautious not to jeopardize the best thing we've got going for us—our reputation. That's of course why we've taken the cuts as we have. Everyone understands what's caused the cuts, and it's clearly understood we'll take the cuts in a way that's not going to affect the safe and timely operation of the MAC mission. But you can't take money out of the budget without affecting something, it'll show up somewhere. So, it's Air Force policy that whatever is left after Congress and the American public decide how much money we get, we'll have the best Air Force possible. It will be the most capable, the most efficient, and the safest, and epitomize all those things we believe in. While it may not be as large or possess all the mission capacity we want, it will be confident and safe, and well taken care of and looked after. That's where we're coming from.

Some of your readers don't remember the late '70s, but what we had then was a hollow force. We tried to save the size of things and then scrimped around the edges. This time we're not doing that. We won't scrimp anymore. Instead, we're going to cut the size down so what's left is damn good. It can be summed up pretty well by what our Chief says—"Our country's going to have the best Air Force we've ever had. It's not going to be as big as it should be, it's not the size Air Force a country like ours deserves, but it'll be a damn good one, whatever it is."

That leads us to what's happening the rest of the year. We'll take it as it comes. It looks like there will be some reprogramming money coming in. Our first priority is keeping our force proficient. What crewmembers have to understand is that although a 35 percent cut in TTF time sounds large, for an average C-141 crewmember it means 4 hours less a month in the last 6 months. But I don't think that will come about. We've cut some things we didn't want to like AIRLIFT RODEO, civic leader tours, civilian personnel manning, and we've offered civilians early retirements and military early outs. All those savings gave us the ability to keep the flying hour program up. In the areas where we had to cut, like TTF hours, it appears we may get some back through reprogramming. In other words, it looks like there's

been some understanding of our problem—we're not just crying wolf. We've looked at it and evaluated it and the only thing left is cutting flying hours unless there's some more money. So I believe more money is forthcoming.

TMF—Sir, we understand that throughout the Air Force, aircrew experience is declining. Assuming we have the same problem in MAC, what aircrew management initiatives to maintain safe operations can crewmembers expect?

General Cassidy—The aircrew experience thing is a spectre that has been raised lots of times. I'm not overly concerned with that at all. The keys to a safety program are, first of all, very good training and standardization programs. I think MAC has exceptional talent. Further, I don't think our airplanes are inherently dangerous. Therefore, if you have a very good training program and a very good standardization program, then experience level becomes something that's a matter of degree. I think we have the best flying training in the world. We have the best stan-eval program. So with those two things, even if the average number of hours an aircrew member has comes down, we'll continue to have a safe flying program. Those two programs give us a lot of safeguards. Stan-eval gives us a healthy look at the force regularly and on a no-notice basis. We use the very latest methods to train people. They may have fewer hours than people had 10 years ago, but they're better trained. So low experience level is really a relative term.

If we get to the point where we have to change or lower our standards to upgrade people, that will have an effect. But we haven't done that and we're not going to. The biggest problem facing the Air Force is total numbers—a pilot shortage in the 1990s. That's brought about by low pilot production and insufficient retention. The quickest way to solve it is to turn retention around. We have to do that and increase pilot production, too. In our C-141s, the minimum time to upgrade to aircraft commander is 1,350 hours. The average time of our new upgrades is above that. We see very few problems as they go through upgrade training at Altus and later on. While we certainly watch our experience level our safeguards are doing their job.

TMF—Other important budget reductions occurred in the spares and depot maintenance arena; also, manning reductions have led to reduced manning at base-level maintenance organizations. Can we expect changes to go-no-go criteria, inspection intervals, or "must have" equipment requirements?

General Cassidy—I don't foresee any criteria changes, but I do suspect our frustration level will be higher. We've experienced very good reliability rates in the command because in the early and mid-1980s we put an awful lot of money into parts. We're not going to change any criteria; they're based on safety, not whether you have any parts. We're not going to jeopardize the mission just because we want the mission to get off on time. Those days in this command are long gone.

As I said, I do see some increase in frustration, especially for mechanics on the line. They'll have to cannibalize more. Canning to make something fly is frustrating as hell to a good maintenance man, and our people are good. That worries me and we'll have to support them. Air Force Logistics Command is very aware of the problem and no one knows our plight better than its Commander and prior MAC/LG, General Alfred Hansen. We have to tell our people we're doing everything we can, and we understand. But, on the other hand, we've made our systems more reliable. The C-5B is certainly more reliable, and if we're able to put preferred spares on the A and B, we'll improve our overall reliability. The new equipment on the C-141 is more reliable. So we've done some R & M things that will keep some of the funding cuts from debilitating us. There are some bright spots out there, too.

General Duane H. Cassidy

TMF—Sir, are there any policy changes or new aircrew management programs in the works you can discuss with us?

General Cassidy—We're looking at the way we do business in the context of our mission—to respond to the user's needs. Our mission in peacetime is to train for that, so the question is how to do it without destroying our people's quality of life. After all, people make the system work, not airplanes. If you have a system that's totally reactive to everything, you impact quality of life to the point they're going to leave. We've seen it happen because we haven't been sensitive enough to it—we have to be more sensitive. For example, we weren't tracking our crew's scheduled return dates, and you can't convince aircrews it's important if you're not tracking it. We've fixed that.

The Global Decision Support System is up and running, and it's a good command and control system. We can track crews as well as airplanes, something we should have been doing all along. But we must realize we have to practice "reacting." I don't believe our folks mind reacting to real world problems, in fact they're proud of their ability to do that. But our people object to being jacked around for just a standard peacetime airlift mission. We've cut out in-system selects to the point they're almost nonexistent. For the first three months of this year they were 50 percent of what they were for one month in 1987. I think we're bringing stability to the system and the aircrews will feel it.

There's a lot going on in additional duties, too. We've written a regulation against an awful lot of them. We've even had some backlash on that. Some of the guys are coming back and saying they'd like to do more. Well, you have to ask what their reasons are for wanting to do more. Sometimes they're not valid. I want them to make sure they have a very good professional life working in the Air Force and a very good social and family life. We need well-balanced people, not zealots. Additional duties should focus on officership and operations, on what we hired these people for. We don't need a C-141 pilot doing inventory at the commissary.

TMF—Sir, what do you believe will be the greatest challenge for flying unit commanders in leading and motivating their people within the force structure we see in the years ahead?

General Cassidy—The commander's challenge won't be squeezing dollars and cents. I expect them to be efficient, but their biggest challenge will be to take the level and quality of our people and make sure they are properly trained and motivated making sure we keep the right ones. I'm not talking just about pilots, but everybody. We don't want 100 percent retention in our force. I worry that we keep the correct people. I worry that our commanders, in a moment of insensitivity, will cause us to lose the next Eisenhower, the next Patton, the next Curt Lemay. We need to nourish those people because we never know when our country will need them. We need those kinds of leaders. I'm just worried they'll leave us for the wrong reasons.

TMF—Are there any final comments you would like to make, Sir?

General Cassidy—First, let me congratulate *The MAC Flyer.* In the last year it's taken a quantum leap. It's fun to read, it looks good, and I'm proud of it. It's devoted to safety and there's no higher reason for being than protecting the most precious asset in our command, our people. The safety program certainly does that and it's embodied in *The MAC Flyer.* I also want to caution our people to be aware that the changes, ups, and downs we're experiencing in our business is cyclical. The political process causing these changes isn't perfect, but it sure is the best going. I don't know another place I'd rather live. But none of these ups and downs can ignore the need for a strong Air Force and our people are integral to that. We have to be above some of these frustrating things that gnaw at us. We'll be around long after some of the people creating these problems have left the scene. A professional military person is expected to be steady, well trained, and ready.

Thank you, General Cassidy.

Flying-Hour Milestones

5,000

193 SOG
SMSgt. Walter C. Fitting, Jr.

97 MAS
MSgt. George C. Berthiaume

167 TAG
Lt. Col. Michael S. Vest
Maj. William E. Garrett
Maj. Joseph E. Myers
Maj. George T. Gillum
Maj. Charles I. Young
Maj. Robert M. Siler
SMSgt. Evers W. Starliper
SMSgt. Howard N. Shearer
MSgt. Martin R. Kilmer
MSgt. George F. Griffith

22 AF
Col. Edward S. Brannum
Lt. Col. Michael J. Kobold
Lt. Col. Michael V. Long
Maj. John F. Abbott
Maj. Charles D. Fahie
Maj. Jacob P. Miller
SMSgt. Wallace J. Dempsey, Jr.
MSgt. James M. Aliff
MSgt. Dayle C. Wymer
SSgt. Freddie M. Hare

23 AF
Lt. Col. Arthur W. Ratcliffe, III.
Lt. Col. James L. Smith
Lt. Col. James G. Codling
Capt. Curtis W. Marsh
TSgt. Robert J. Tock

2,500

57 MAS
Col. Robert D. German
Lt. Col. Richard B. Bundy
Lt. Col. James B. Evans
Lt. Col. Joseph F. Henderson
Maj. Brian D. Allison
Maj. Gilbert T. Ball
Maj. David A. Davis
Maj. Robert H. Doan
Maj. Francis A. Doyle
Maj. Kevin P. Flatt
Maj. Stephen B. Frye
Maj. Wilfred P. Holeman
Maj. Thomas H. Hopkins
Maj. Archer P. Lassiter
Maj. Robert E. Melton
Maj. Danny E. Noel
Maj. Philip A. Pierce, Jr.
Maj. Lawrence P. Pohl
Maj. Steven R. Robinson
Maj. Dennis M. Sheraden
Maj. David E. Stahre
Maj. Joseph Stiklickas
Maj. Thomas L. Tasker
Maj. David C. Walden
Maj. Paul S. Williams
Capt. Robert R. Allardice
Capt. Mondell R. Anderson
Capt. Floyd A. Badsky
Capt. Herbert C. Bailey
Capt. Shelby G. Ball
Capt. Matthew J. Berry
Capt. Peter J. Blome
Capt. Anthony G. Bonutti
Capt. Mark A. Caslen
Capt. Robert B. Colvin
Capt. Robert C. Cosand
Capt. Donald L. Dobias, Jr.
Capt. John G. Ephland, Jr.
Capt. Randy S. Frixsell
Capt. Randal D. Fullhart
Capt. Eric P. Garrison
Capt. Joanne C. Guretsky
Capt. Ronald L. Hatfield
Capt. Johnny D. Johnson
Capt. Mark E. Kain
Capt. Richard D. Kelly
Capt. Leland W. Kindle
Capt. Buddy L. Kootz, Jr.
Capt. Jack N. Lowe
Capt. David W. MacNeil
Capt. Mark D. McCaw
Capt. Harold M. McDonald, III.
Capt. Dennis M. McFall
Capt. Matthew A.Meintel
Capt. Todd L. Montgomery
Capt. Joseph Motz
Capt. Lori L. Muir
Capt. Roch A. Naert
Capt. Mike L. Peters
Capt. Ronald E. Richburg
Capt. John S. Roosma
Capt. Frederick Saunders
Capt. Robert S. Seamon
Capt. James D. Staley
Capt. David J. Stroud
Capt. Jonathan L. Svoboda
Capt. Eric W. Thompson
Capt. Theodore L. Truex
CMSgt. James W. Trimble, II.
SMSgt. Louis S. Delisle
SMSgt. Cecil R. Fultz, Jr.
SMSgt. Robert R. Malesic
MSgt. Larry S. Allison
MSgt. Sherod G. Bailey, Jr.
MSgt. Stephen L. Blackwell
MSgt. James L. Bond
MSgt. Raymond F. Brzozowski
MSgt. Dale E. Caldwell
MSgt. James M. Carr
MSgt. Curtis L. Connor
MSgt. Von D. I. Cook
MSgt. Thomas Dickerson
MSgt. George G. Duffy
MSgt. John L. Frame
MSgt. John C. M. Funk
MSgt. Jerry E. Groenhagen
MSgt. James S. Hoopes
MSgt. Lawrence W. Hurd
MSgt. Nelson E. Kinsey, III.
MSgt. George E. Liley
MSgt. James E. McCullough
MSgt. Maurice McGinnis
MSgt. Robert I. Myers
MSgt. Lawrens L. Newson
MSgt. Richard A. Partridge
MSgt. Howard A. Schmidt
MSgt. Harlan M. Schwamb
MSgt. William J. Tidrick
MSgt. Frederick Volkmann
MSgt. Al Scott West
MSgt. James A. Williams, Jr.
MSgt. Clarence K. Wilson
TSgt. Gene R. Arndt
TSgt. Allen R. Bachman
TSgt. Joseph A. Brooks
TSgt. Michael R. Browning
TSgt. Ralph W. Campbell
TSgt. Mark T. Cavanaugh
TSgt. Martin R. Clark
TSgt. Ora L. Conlon
TSgt. James C. Cowan
TSgt. Arthur Desrosiers
TSgt. Rene W. Deville
TSgt. Robert S. Doty
TSgt. Anthony R. Fairley
TSgt. Clensey O. Fairley
TSgt. James H. Faulkner, III.
TSgt. George E. Gaines
TSgt. Terry L. Guy
TSgt. William R. Heineman, Jr.
TSgt. Richard B. Hendrickson
TSgt. James R. Henry
TSgt. Stephen B. Hodge
TSgt. Vance C. Hoyle, Jr.
TSgt. Anthony Huland
TSgt. Lynn D. Husby
TSgt. Ricky L. Kimberly
TSgt. Gregory G. Koblerski
TSgt. Thomas E. Lucas
TSgt. Kevin D. McAuliffe
TSgt. John L. Murphey
TSgt. Brian L. Oertel
TSgt. Gary R. Rice
TSgt. Richard S. Ricks
TSgt. Frank A. Schlanker
TSgt. Kenneth M. Smith
TSgt. Marvin Smith
TSgt. Gary E. Snyder
TSgt. Mark D. Ulm
TSgt. Bradley A. Ward
TSgt. James E. Watson
TSgt. Frank E. Whitver
TSgt. Michael S. Willis
TSgt. Ronald E. Wolfe
TSgt. Thomas F. Woodruff
SSgt. Richard D. Alcoy
SSgt. Linette L. Baker
SSgt. John A. Brehm
SSgt. David H. Bridges
SSgt. Robert J. Brown
SSgt. Jeffrey T. Budnik
SSgt. Chris D. Buller
SSgt. Walter A. Bullock
SSgt. Jeffrey A. Burgess
SSgt. Carl E. Covey
SSgt. Gerry O. J. Danielson
SSgt. Richard Day
SSgt. Kenneth J. Drucker
SSgt. Charles W. Erickson
SSgt. Courtney H. Franklin
SSgt. Michael L. Laird
SSgt. Thomas D. Lee
SSgt. Carl R. McNeill
SSgt. Bruce W. Morey
SSgt. Greg B. Peterson
SSgt. Michael D. Remick
SSgt. Michael J. Stinson
SSgt. Gary C. Summers
SSgt. James W. Watson, Jr.
SSgt. John M. Wiseley
SSgt. Grady K. Woosley
SSgt. Frederick L. Zimmer, Jr.
907 TAG
MSgt. William A. Rooks, Jr.

1,000

939 ARRG
SMSgt. James E. Masog
MSgt. Ronald J. Carpenter
TSgt. Clarence E. Murray
TSgt. Robert M. Garger
TSgt. Scott R. Hamilton
TSgt. Michael E. Mucenig

Ranks and units are those at time of award. ★

Twenty First Air Force—

By Maj. Stephens F. McCauley
Associate Editor

Twenty-First Air Force—Who is it? What is it? How does it impact flight safety in MAC? In search of untold truths regarding such rhetorical questions, I hit the reporter's trail for *TMF* interviews with representative members of that august organization.

A quick tour through the variety of functional elements, actually talking with those folks, revealed more than just the nature of Twenty-First's direction and support for subordinate units. They showed me the *value* of Twenty-First Headquarters, which keeps a firm grip on that *big picture*. Staffers and ops types provide that extra nugget of knowledge which keeps a given airlift mission or exercise on track and in the *safe zone*.

Before continuing with my personal encounters and observations while at 21st, let's overview some highlights on the scope and range of its mission. The 21 AF area of responsibility extends eastward throughout NATO, including Canada, Greenland, Iceland, Europe, Africa, and through the Middle East to the eastern boundaries of Iran and the Arabian peninsulas. Southward, the area of responsibility includes the Caribbean and South America. Over 34,000 MAC people and 280 airlift aircraft do the job for this numbered air force. Although active duty personnel form the nucleus of the peacetime command, the interdependent partnership with reserve force counterparts provides expanded capability for contingencies.

It is illustrated in their headquarters briefing: "In the heat of battle or times of crisis, 21st people and planes are there." Reviewing missions associated with each operating location, the briefing offers a command tour. Just in case you're not completely familiar with the geographical scope of 21 AF, select portions of that briefing follow:

"McGuire Air Force Base, amid the fertile truck farms of New Jersey, is home to Headquarters 21st Air Force (AF) and C-141s flown by people of the 438th and 514th (Associate) Military Airlift Wings (MAW).

One of the 438th's most important responsibilities is nuclear weapons transportation for the Department of Defense. The 438th operates a large cargo terminal as well as military passenger facilities at McGuire and Philadelphia International Airport, the two largest military passenger facilities on the east coast. The remaining C-141s of 21 AF are operated by Charleston AFB, S.C., and the people of the 437 MAW and the 315 MAW (Associate). Charleston people are responsible for developing and testing airlift techniques for strategic operations. They fly the C-141 at low level in a day and night airdrop role to insert people and equipment into enemy territory without being detected.

21st Air Force Headquarters Building

Men and women of the 436 MAW and its Reserve partner, 512 MAW, fly and support the C-5 from Dover AFB, Del. Dover is also home for the largest military air cargo terminal in the U.S.

Close to our nation's capital is Andrews AFB, home of the 1776th Air Base Wing, the 89 MAW, and the Malcolm Grow Medical Center. The 1776th provides administrative support and services for base people while the 89th is responsible for special airlift missions (SAM) including "Air Force One," the presidential aircraft, and transportation for high level government officials. Also at Andrews is a MAC-gained Air Force Reserve Wing, the 459th, which flies C-141s.

Pope AFB, N.C., is home base for 21st's CONUS-based fleet of active duty C-130 Hercules aircraft assigned to 317th Tactical Airlift Wing (TAW). Pope also houses the USAF Airlift Center which develops and tests new airlift equipment and aerial delivery procedures.

Geared for mission success.

The 118 TAW (ANG) at Nashville Municipal Airport, Tenn., 94 TAW (AFRES) at Dobbins AFB Ga., and the 439 MAW (AFRES) at Westover AFB Mass., are the remaining Air National Guard and Air Force Reserve C-130 wings that play vital roles in meeting 21 AF wartime taskings.

Overseas units include the 61st Military Airlift Group at Howard AB, Panama. This unit is the vital link between 21 AF and Headquarters Southern Command for managing MAC forces in the Central and South American areas. They provide en route maintenance support for C-5, C-141, and C-130 aircraft going to and returning from such locations as Honduras, Peru, Bolivia, Paraguay, El Salvador, and other Central and South American countries.

Lajes Field in the Azores is the home of the 1605th Military Airlift Support Wing. It's a key support base in the Atlantic on a small island owned by Portugal. Lajes is a staging base for supplies and equipment and is strategically important to 21 AF during deployment of forces.

Ramstein AB, Germany, is the home of the 322d Airlift Division (ALD). It is responsible for providing immediate airlift support for all U.S. forces in the European theater. There are four major flying units under the 322 ALD. The 435 TAW at Rhein Main AB, Germany, has two missions: aeromedical airlift evacuation using the C-9, and intratheater tactical transportation using the C-130. The 58th Military Airlift Squadron (MAS) at Ramstein AB, Germany, operates much the same as the 89 MAW at Andrews by providing administrative airlift throughout Europe using operational support aircraft. The 10 MAS at Zweibrucken AB, Germany, moves vital spare parts in the European Distribution System using the C-23A. The 313th Tactical Airlift Group at RAF Mildenhall, United Kingdom, has a squadron of U.S. based C-130s on 60-day rotation, providing intratheater mobility, training, and logistics support. In addition to these flying units, the 322d operates air terminals and maintenance facilities at more than 25 operating locations, groups, and detachments at such places as Torrejon, Spain; Sigonella, Italy; Incirlik, Turkey; and Dhahran, Saudi Arabia.

The people and aircraft of 21 AF at these major installations and the many smaller units in 155 locations, on five continents, and in 15 different countries form a responsive net to support an effective, modern airlift system."

Well, that's quite a mouthful for the briefing officer. Furthermore, it's really quite mind-boggling when you consider 21 AF is responsible for directing and ensuring the safety of MAC people in all those locations.

I was privileged to interview 21 AF Commander, Maj. Gen. Donald A. Logeais, during my visit. He summarized the uniqueness of the 21st mission with, "This is where the action is right now—the hot spots of The Eighties—The Middle East, Persian Gulf, and Central America—are all in our operational area.

A daylight "clock" in 21st Ops Center graphically displays how the "sun never sets" on the 21 AF.

Activity in those areas impacts how we set up our missions and how we operate them." He mentioned some unique mission responsibilities: "We have to say there is only one 89th. We all know they airlift the president and other very high ranking government officials. It's extremely important they do that job safely because we can't afford to gamble with that mission."

At the other end of the airlift spectrum is the C-23 European parts delivery mission: "They operate in some terrible weather most of the time. That's their beat." He went on to address the Special Operations Employment (SOE) and Special Operations Low Level (SOLL II) missions and their full time alert requirement, summarizing his point with, "Each mission has demanding operational requirements and requires skill levels beyond the norm." Addressing unique safety challenges in his command, the general mentioned the harsh weather peculiar to the North Atlantic, the extremely high winds at Lajes, and unusual operations in remote parts of Africa. He said, "My concern is that the crews have everything they need going into those kinds of (limited support) places."

He pointed out a significant safety enhancement added "for those tough missions" is the advanced technology SATCOM system, enabling aircrews to stay abreast of latest regional developments at their destinations. I asked General Logeais if he had any special safety advice for his aircrews, and he responded with, "One of the first things we have to remember is that what we do is not ho-hum business as usual. The crews have to keep in mind that it is high risk, with high payoff for the country. They can't let that nagging feeling of complacency set in."

Continuing my search for the 21 AF flight safety story, I queried my hosts from 21 AF/SEF (spelled flight safety office.) Col. Ron Peoples, Maj. Dale Van De Ven, and Maj. Dan Todd all assured me they are avid readers of *TMF*. (They even had highlighted copies on hand to prove it.) When asked about their main *raison d'etre*, they emphasized their principal function is "to advise 21 AF commander on flight safety issues." Everything else stems from that fundamental charter. Probing more deeply, I inquired about their approach to furthering the principal goal of every safety program: *mishap prevention.*

They responded with, "We directly assist wing safety offices in doing their jobs more effectively. We compile mishap information for dissemination to the wings, assemble monthly crosstell info, and host an annual flight safety conference."

The DO, Col. Doug Forsythe, explained that the activity level continues to increase because of so many volatile spots within the command's area. 21st's staff is stretched farther than ever. The terrorist threat continues as a big factor in our planning. The diversity in the types of places we go without MAC support offers some unique challenges. Operating hours at European bases drive our strat crews to depart home station at terrible hours. Obviously, that creates human factors (safety) problems, and we've looked at adjusting that; it's very difficult to do, however."

Concerning the frequent requirement to adapt missions to changing situations, the colonel commented, "We try to compensate but, of course, we often have to just ask the crews to suck it in and cope. Our mission profiles are very sortie intensive, which tasks our maintenance capability to turn aircraft, and also makes the job very *crew* intensive. Because of this labor intensive flying, the learning curve for crews has to be very rapid. We're seeing a lot of young guys out in the system, and that can be a safety factor, too." Col. Jeff Hickman, the ADO, added, "We used to have a lot of old guys out there, but they just aren't in the units anymore."

In the 21st Operations Center, I was greeted by a very cooperative pair of Air Force majors who provided the "grand tour." Majors Steve Ammon and Doug Cole describe the operations center as, "The hub, ops-wise, which puts crews in contact with the resources they need to do the mission. It's mostly coordination, rather than directing." They can quickly put crews in touch with flight planners, maintenance experts, or the folks who work diplomatic clearances. My hosts described their ops center as, ". . .manned by real human beings who do care about your problems. Every duty officer is a MAC pilot or navigator who has a lot of experience flying in the same systems you deal with every day." By way of a message for aircrews, they offered, "When there's a problem and the crew needs a waiver, we first listen to what the aircrew recommends and give that a lot of weight. But we don't give the waivers here. We coordinate waivers with standardization personnel for DO approval. Finally, remember aircrews are the backbone of what we try to accomplish here at 21st. They move the missions. We are here to offer help when those gremlins come calling."

Also located in the ops center are the 21 AF flight planners who describe their routine function as, ". . .massaging all mission factors to get the job done." They consider max cargo loads, preferred routings, special restrictions or requirements, and weather (updated every 6 hours). They send the information to "the big computer" at Offutt AFB, Nebraska. The end product is the computer flight plan (CPF). They caution, however, "Too many crews follow a CPF blindly instead of questioning such

21st Air Force Operations Center

things as their overflight clearance, fuel required, and winds aloft."

Alongside the duty officer is the Logistics Readiness Center (LRC). Their function involves controlling and coordinating aircraft maintenance and coordinating safety of flight waiver action, as necessary. SMSgt. Ed Hubrich says they work closely with 22 AF, 23 AF, and HQ MAC, to move maintenance recovery teams with critical parts via military or commercial airlift as quickly as possible. They've worked the spectrum of maintenance problems to ensure our aircrews have safe aircraft to execute their missions.

The logistics function at 21 AF plays a very important role in the flight safety arena. I had the opportunity to learn some relevant facts from Col. Terry Kemp, Director of Maintenance Engineering. He pointed out that 21st's logistics function is primarily that of a collection point. They collect maintenance and supply information from the units and pass the important parts to HQ MAC. They apply the procedure in reverse when HQ MAC needs to pass information along.

Said the colonel, "We provide another set of eyes and ears to make the checks and balances of the system work. We look for common problems in units and elevate them to MAC. Or we might decide to send TDY assistance to a unit. We are here to serve the units. For example, fuel leaks on C-141s are a big safety concern for us. To better handle the problem, we've elevated it to MAC. We monitor a number of safety issues, like C-130 synchrophasers, throttle cables, and C-141 spoilers." When asked about the direct effects of budget cuts on logistics he replied, "Phase-down in funding will delay PDM (programmed depot maintenance) on some aircraft. We don't want to sacrifice safety so we'll have to be smarter and figure out how to continue to get the job done."

Finally, as I walked into the 21 AF Current Operations office, this *TMF* reporter was greeted with a torrent of handcrafted aerodynamic objects from their wastepaper cans. They knew this *TMF* interview was serious business, and they were expecting me. I recognized their sense of humor from my previous life as a crew dog. Majors Steve Keyserling and Rick Cobb introduced me to Lt. Col. Rick Jenkins; all 21st current operators.

Their office makes a continuing effort to plan missions with the aircrew in mind. They carefully look at crew rest needs and airfield operating hours to try to get crews on a daylight flying schedule. They "almost never" schedule a crew for minimum crew rest. In fact, a majority of our discussion revolved around "crew enhancement issues."

Thus, I concluded my cursory overview of 21 AF. Despite the lack of windows fitted to their concrete block office structure, there are no mushrooms proliferating inside. Everyone I talked to had something to say about mission safety—a testimonial to our collective efforts. I left the headquarters with even greater respect for the men and women who work there and highly recommend the tour for any aircrew on a visit of opportunity. ✈

TMF ROLL O

as of 30 Septembe

MAC UNIT MISHAP-FREE FLYING-HOUR MILESTONE AWARD

800,000 HOURS

76 MAS

650,000 HOURS

14 MAS

600,000 HOURS

1 MAS
6 MAS

500,000 HOURS

4 MAS

450,000 HOURS

137 TAW (ANG)

400,000 HOURS

86 MAS
9 MAW

350,000 HOURS

53 MAS
136 TAW (ANG)

300,000 HOURS

1401 MAS

250,000 HOURS

11 AAS
62 MAW
403 RWRW (AFRES)
437 MAW
438 MAW
445 MAW (Assoc)
446 MAW (Assoc)
459 TAW (AFRES)
1400 MAS

220,000 HOURS

9 MAS

200,000 HOURS

34 TATG
36 TAS
115 TAW (ANG)
315 MAW (Assoc)

150,000 HOURS

18 MAS
21 TAS
439 TAW (AFRES)

140,000 HOURS

55 WRS

120,000 HOURS

1 HS
41 TAS
64 TAS (AFRES)
97 MAS (Assoc)
156 TAS (ANG)
183 TAS (ANG)
185 TAS (ANG)
313 MAS (Assoc)
327 TAS (AFRES)

100,000 HOURS

7 MAS
8 MAS
20 MAS
50 TAS
53 WRS
61 TAS
73 AAS
96 TAS (AFRES)
180 TAS (ANG)
187 TAS (ANG)
193 ECG (ANG)
312 MAS (Assoc)
345 TAS
463 TAW
514 MAW (Assoc)
772 TAS

OF HONOR

MAC UNIT MISHAP-FREE FLYING-YEAR MILESTONE AWARD

40 YEARS OR MORE

64 TAS

30 THROUGH 39 YEARS

1 MAS
6 MAS
14 MAS
73 AAS (Assoc)
76 MAS
96 TAS (AFRES)
183 MAS (ANG)
193 ECG (ANG)
305 ARRS (AFRES)
312 MAS 327 TAS (AFRES)

25 THROUGH 29 YEARS

1 HS
Det 11, 39 SOW
Det 5, 40 ARRS
Det 18, 40 ARRS
48 ARRS
63 TAS (AFRES)
97 MAS
130 TAS (ANG)
137 TAW (ANG)
156 TAS (ANG)
167 TAS (ANG)
180 TAS (ANG)
185 TAS (ANG)
187 TAS (ANG)
301 ARRS (AFRES)
303 TAS (AFRES)
313 MAS (Assoc)
328 TAS (AFRES)
403 TAW (AFRES)

20 THROUGH 24 YEARS

4 MAS
36 TAS
Det 22, 40 ARRS
53 MAS
53 WRS
55 WRS
58 MAS
68 MAS (AFRES)
115 TAS (ANG)
136 TAW (ANG)
142 TAS (ANG)
143 TAS (ANG)
144 TAS (ANG)
164 TAS (ANG)
146 TAW (ANG)
181 TAS (ANG)
337 TAS (AFRES)
445 MAW (Assoc)
459 TAW (AFRES)
728 MAS (Assoc)
730 MAS (Assoc)
756 TAS (AFRES)
758 TAS (AFRES)

10 THROUGH 19 YEARS

Det 1, 1 SOW
7 MAS
7 SOS
8 SOS
9 MAS
11 AAS
21 TAS
31 ARRS
Det 3, 37 ARRS
Det 5, 37 ARRS
Det 8, 37 ARRS
Det 9, 37 ARRS
Det 10, 37 ARRS
Det 5, 39 SOW
Det 4, 40 ARRS
Det 6, 40 ARRS
41 TAS
50 TAS
55 AAS
56 MAS
61 TAS
Det 9, 67 ARRS
86 MAS
89 MAW
Det 1, 89 MAW
94 TAW (AFRES)
109 TAS (ANG)
129 ARRS (ANG)
133 TAW (ANG)
135 MAS (ANG)
137 MAS (ANG)
139 TAS (ANG)
146 TAW (ANG)
155 TAS (ANG)
158 TAS (ANG)
300 MAS (Assoc)
301 MAS (Assoc)
302 SOS (AFRES)
304 ARRS (AFRES)
315 MAW (Assoc)
326 MAS (Assoc)
335 MAS (Assoc)
345 TAS
356 TAS (AFRES)
357 TAS (AFRES)
439 TAW (Assoc)
446 MAW (Assoc)
512 MAW (Assoc)
514 MAW (Assoc)
700 TAS (AFRES)
701 MAS (Assoc)
702 MAS (Assoc)
707 MAS (Assoc)
708 MAS (Assoc)
709 MAS (Assoc)
711 SOS (AFRES)
729 MAS (Assoc)
732 MAS (Assoc)
772 TAS
815 WRS (AFRES)
932 AAG (Assoc)
934 ARRG (AFRES)
1400 MAS
Det 1, 1400 MAS
Det 2, 1400 MAS
Det 4, 1400 MAS
1401 MAS
Det 1, 1401 MAS
Det 2, 1401 MAS
Det 3, 1401 MAS
Det 4, 1401 MAS
Det 3, 1402 MAS

From Left to Right: 1st Lt. Michael W. Ellicott and 1st Lt. Daniel J. Higby

First Lieutenants Daniel J. Higby and Michael W. Ellicott, Det 4, 1402 MAS, were flying a C-21A, with a DV on board when, during takeoff at 50 ft AGL, the Number 2 engine suddenly, catastrophically failed. Crew and passengers all heard and felt the engine compressor stall. The aircraft immediately began a yaw and roll to the right. Lieutenant Ellicott applied nearly full left rudder and aileron, and advanced power on Number 1 engine.

With wings level in a climb, Lieutenant Ellicott accomplished engine failure on takeoff procedures while Lieutenant Higby declared an emergency and prepared for a visual return to the runway. With the errant engine at idle, the aircraft continued to shake violently so the crew shut Number 2 engine down. Even with Number 2 engine shut down, the damaged engine's rotation caused such vibration that determining the condition of Number 1 engine was extremely difficult. Lieutenant Higby dumped fuel and ran engine failure during takeoff, engine shutdown in-flight, and single-engine landing checklists. As a precautionary measure, he also reviewed single-engine go-around and landing with both engines inoperative checklists.

Lieutenant Ellicott held maximum speed in the final turn so he could make the runway in case of a dual-engine failure. Lieutenant Higby stopped fuel dumping on final while Lieutenant Ellicott configured and executed a flawless heavyweight, high pressure altitude, single-engine landing.

This crew's quick reactions and outstanding airmanship, coupled with indepth knowledge of emergency procedures, prevented loss of lives and saved a valuable aircraft. The Excellence in Airmanship Award is well deserved. Congratulations from *TMF*.

IT WAS HORRIBLE!!!

Throwing the book out the window because "it's combat rules" totally misses the point for which the books were written!!!

It was one of those nights when discomfort was such it burns permanently in your memory, filed under the "I never want to do this again," category. The temperature had to be in the 90s, and the humid jungle air was so thick, you had to push it out of the way to walk.

Mac MacKenzie was laying on top of his mobility-issued arctic mountain sleeping bag. He was wide awake, and thoroughly miserable. Mosquito nets are nice, but they also work against you when one of the little creatures gets trapped in there with you—and one was.

"What to do," he thought. "I've taken three showers already today, yet the sweat keeps sprouting from my pores. And that miserable mosquito's high-pitched buzzing is sure to drive me mad before morning.

"What time is it?" he wondered. "Oh, 10 minutes later than the last time I looked—will this exercise ever end?"

The thick air muffled the outside sounds, but he could still clearly hear maintenance engine runs on the 130s and an occasional helicopter. Other sounds of people walking, talking, and working also penetrated the thin corrugated tin walls. Mac seriously began to doubt whether he'd ever sleep again.

"Maybe I should get up and wander out to the flight line," he thought. "After all, I'm in this God forsaken country as the exercise flight safety officer, and I'm not crew resting; I might as well earn my pay. Then again, I'd have to contend with all of my own *personal* mosquito's cousins, and I'd need another shower and another change of clothes. I am running low. I've never taken so many showers yet felt so filthy in all my life. How did those guys ever put up with Vietnam? I guess Charlie commanded more concern than sweat and smelly clothes.

That thought directed Mac into another area of daydreaming. "Speaking of combat, that was a pretty real intel briefing the crew of Tango X-ray One Five got this evening. Ha! Pretty real; what an understatement—*it was real.* I know our goal is realism in exercises, but if that forward operating location (FOL) destination they're going to tonight does get hit by a rebel attack, true realism will be obtained.

"I know *I* don't have any combat experience, neither does that crew, and neither do most of us! Come to think of it, we've trained in air-to-air evasive maneuvers, low-level electronic detection avoidance, combat flight profiles, soviet missile capabilities, and a host of other tactics; but I don't remember learning anything about what to do when you come under attack while taxiing! Ah well, if they survive it—and God, if you're listening this constitutes a prayer—I think I'll pursue that syllabus with the Combat Aircrew Training School (CATS) folks when I get home. God help me—whenever that'll be."

About 70 miles away, the aircraft commander on Tango X-ray One Five was checking-in his crew for the approach briefing.

"Okay crew, listen up. We've already poured over the stats and airfield diagram and all that remains the same. Co, I want 50 flaps on approach, going 100 at my command, we'll slow to a max effort speed of one oh three and plan touchdown in the zone. Nav, you and the co check touchdown location. If we're long, call a go-around immediately. Engineer, I'll push the throttles until you call it

good, if we've time for the flaps, we'll go 50. Copilot make the Go call. Any questions?"

After momentary interphone silence the pilot said, "No response, no questions. One other thing, crew: based on that intel briefing, we have a long shot chance of being on a field that's under attack. Load, if the field starts taking incoming, I'll direct an immediate offload while taxiing into takeoff position, and it'll be a running takeoff. We'll operate the Before Takeoff Checklist right after the After Landing, Ops Stop, once on the ground. Any questions?"

"Pilot, Load. I can't do much on that takeoff checklist while I'm still working an offload."

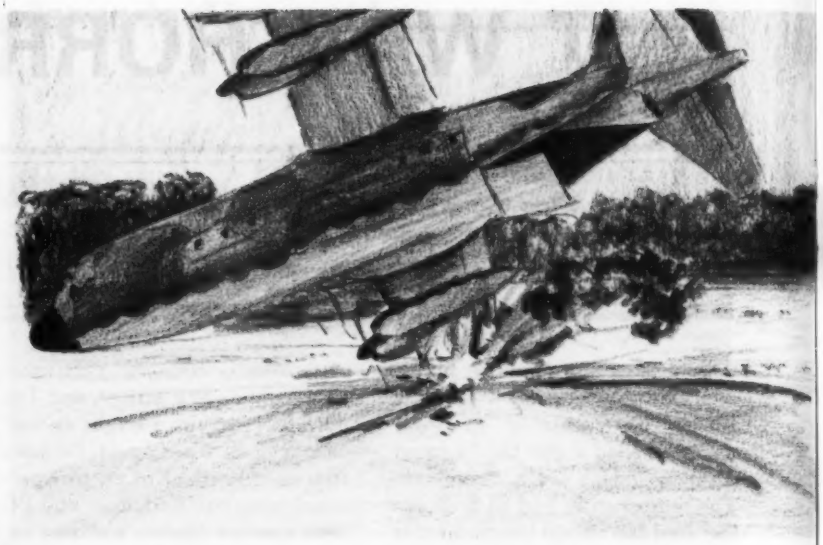
"Roger, I understand. Just do the best you can. This is war you know, it's time to apply that judgment we've been taught and bend the rules to whatever it takes to get the job done. Briefing complete, Before Landing Checklist."

The night landing was uneventful; this AC was truly a skilled pilot. They rolled to the end of the runway and did a 180 to come up the parallel taxiway while the loadmaster readied for the combat offload.

Just then a sharp, piercing whoosh occurred followed almost instantly by a loud crack and boom. The crew on the flight deck saw the large ball of fire on the opposite side of the runway.

Simultaneously, the interphone system came alive from all stations—"What the &%*$# was that???" All were asking a question to which they already knew the answer, but hoped and prayed they were wrong.

For a few moments, nobody said anything. They all were in that transformation phase—when a man experiences that certain



feeling when immense fear envelops him, and running isn't an option. The time had come for action. A few get medals for that action, many survive, some die!

Just then, another whoosh—bang. This one hit the departure end of the runway. No questions this time; the AC shouted: "Let's get the **#$&* out of here!" With that, he slammed the throttles forward to speed the taxi to the end of the parallel and onto the runway. The Before Takeoff Checklist had been called complete, and he checked the flaps indicator to confirm 50, slid sideways during his turn to runway heading, and jammed the throttles forward.

As this was happening, the combat controller was screaming over the radio, "X-ray One Five, X-ray One Five, abort, abort!"

The pilot heard it faintly. He quickly disregarded the instructions, thinking they were concerned about that last rocket's impact on the runway and where the next one may land. "That's not important," he thought to himself, "the next one may just as well land on the taxiway too, and I'm getting this pig airborne—I've been trained how to fly in combat, I don't much care to learn airfield defense!"

Some 70 miles away, Mac checked his watch again. Ten minutes had expired since last checking it, and the lone mosquito in the net was winning the battle of persistence. Just then, someone quietly walked into the quonset hut and whispered, "Is there a Captain MacKenzie here?"

"Here I am. Have you brought the air conditioner I asked for?"

"Uh, no sir. We've lost one."

"What! One what?

"A 130 sir, at FOL Delta. We just got the call about ten minutes ago, they said it was still burning.'

"Tango X-ray?"

"Yes sir."

"God, oh God. Do we have any idea what happened?"

"Not really sir, the field had taken two rockets while they were on the ground, but they said he

crashed during takeoff, not because they were hit."

"Have we any way to get me up there?"

"Yes sir. Colonel Brasky is going up there right away in one of the Blackhawks and he wanted me to see if you wanted to go."

"Yes, I'll be ready in a jif. Have we gotten word to the COMALF yet?"

"Yes sir, the comm folks are kacking it up right now."

"Good, let's add that I'm on my way up there, and I'll let 'em know more as soon as I find something out."

By this time, Mac had finished lacing his boots and started walking out when the messenger stopped him and pointed to his helmet and flak vest and said, "You'll need those sir."

It was as if someone had just awakened him. Up to this point, the news was received in a professional manner. All responses were tuned into what a safety officer is *supposed* to do in this situation. But when the helmet and flack vest were pointed out to him, a sudden rush of fear gripped him. This was real. An airplane has crashed and probably not in the safest territory. He looked at the sergeant and, with a forced chuckle, said, "Oh yeah, I'm not all that used to this yet."

Colonel Brasky was waiting for Mac at the makeshift combat ops center. The Army colonel was a slender, short man. Yet he looked every bit as tough and wiry as his Special Forces patch would lead you to believe. Mac had talked to him several times before during this exercise. The colonel had been a captain in I Corps during the Vietnam War, with the Special Operations Command. He was assigned to Command Control North where frequent long range intel gathering missions had burned a permanent determination to survive in this old boy. Judging by where they were going, Mac was glad to be going with him; furthermore, he was prepared to do exactly whatever the colonel told him to do.

"Good morning sir," Mac greeted Colonel Brasky. "Have we heard anything else?"

"Hi Mac. Well we have, but not anymore on the crash, just that they've neutralized the rebel firing position, and the area should be cold when we get there."

Mac thought cold would feel pretty good right now, but somehow didn't think he was about to enjoy it.

"I'm getting this pig airborne— I've been trained how to fly in combat, I don't much care to learn airfield defense!"

At that point, the ops sergeant walked in and announced, "The helicopter's cranking sir, we're ready to go."

As they approached Delta, dawn's twilight was beginning to grace the jungle terrain and Colonel Brasky directed the pilot to circle over the crash scene before landing. Mac had investigated four different Class As before, but this was the first time he'd gotten there while it was still a "smokin' hole." Dark grey and black smoke was rising from several small fires burning in the now neatly shaped ashes that lay in the perfect form of what was once a C-130.

Over the radio, they'd already heard the news that there were no survivors. As the helicopter landed, the senior combat controller approached. He too was a combat veteran from years before. His face was quite drawn and displayed how tired he actually was.

After a smart salute he blurted right in with the explanation. "I tried to stop them sir. Oh God I tried to stop them. They wouldn't answer me. I know they must not have known their ramp was still down, oh God, oh God, it was the worst thing I've ever seen."

Mac perked, and immediately asked, "The ramp was down? During takeoff?"

The controller explained while he pointed to various key spots around Delta. "Yes sir, the first rocket hit over there while they were just beginning the offload. The second came right after it and hit that end of the runway. By that time, the pilot goosed so much throttle that I thought he was gonna take off right from the taxiway, but instead he sped to the end and did a hook slide onto the runway and started taking off. I saw the ramp down and desperately tried to warn him on the radio. He just kept accelerating and when he rotated it appeared as though it was way too steep and the ramp scraped into the runway. Right after that, the airplane appeared to roll right and then the wing tip caught the ground. It cartwheeled twice and landed on its back bursting immediately into flames. We tried to get in there, but the heat was too intense. Oh God, it was horrible!"

HATRs and YOU

Keeping the skies safe.

By Major Ken Wheeler
HQ MAC/IGFF

For MAC 60180, it was a routine channel mission—until the last three minutes. Jack, the aircraft commander, had briefed the ILS with a TACAN backup. That should get us through the soup, he thought. With a 1,500-ft overcast, 1½ mile visibility obscured by fog, the approach would be a fitting end to a European arrival. The approach clearance caught Jack's attention as it crackled through the radio, "MAC 60180 cleared to descend to one thousand three hundred feet, turn right to heading 090, cleared ILS Runway 11."

Jack turned the aircraft to 090 and saw he was on a perfect intercept to the inbound course. Just a few seconds to intercept, he thought. I've got to level at 1,300. As he rolled on course and leveled, he heard the controller calling, "Vergo 24, turn right heading 360 immediately." Vergo 24 responded, "Say again for Vergo 24."

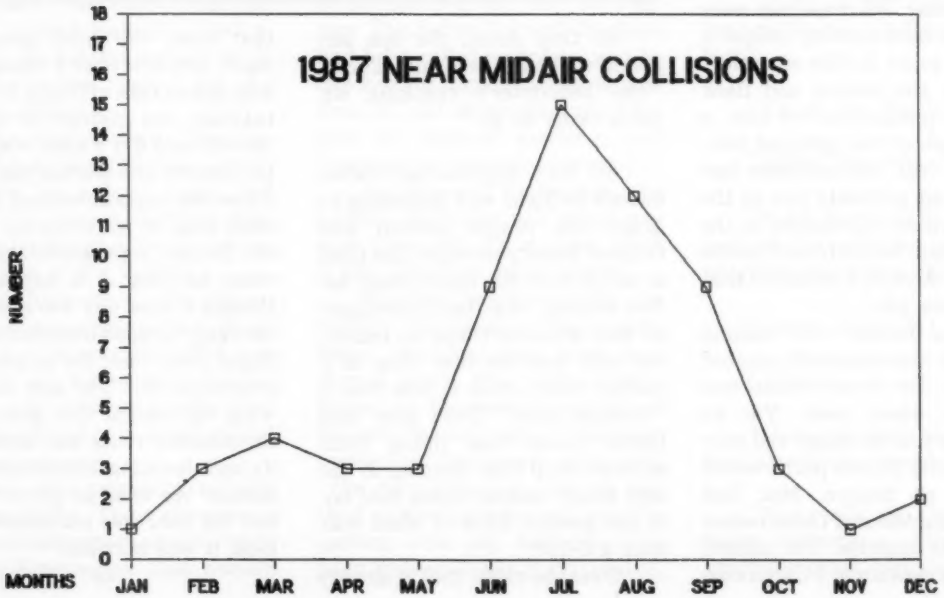
The controller echoed his previous direction, this time with urgency, "Vergo 24 turn right heading 360 immediately, immediately!" followed by, "MAC 60180 turn right heading 180 immediately."

Jack didn't have time to react. A C-130 appeared out of the clouds head-on in a 45-degree bank, turning away. Jack instinctively pushed over for avoidance. He estimated the near-miss at 200 feet.

Jack returned to assigned altitude and heading and advised Approach he had just experienced a near-miss with a C-130 opposite direction, co-altitude, and would file a written report on landing. As the C-141 touched down, Jack was relieved they were finally on the ground. He told the copilot, "contact command post and tell them we just had a near miss with a C-130 on approach. Request a flight safety officer meet us at the aircraft."

This incident is just one of many reported in MAC each year through the Hazardous Air Traffic Reporting Program outlined in AFR 127-3. The regulation establishes procedures for reporting and investigating near-midair collisions (NMAC) and other hazardous air traffic conditions. This information is used solely for mishap prevention and not for disciplinary action. Individuals are *immune from disciplinary action*, provided:

- The violation was inadvertent.
- No mishap occurred.
- No criminal offense was intended or committed.
- The incident was properly reported.



Reporting an event is easy. An AF Form 651, Hazardous Air Traffic Report (HATR) (in your mission kit, Base Ops, Squadron Ops, or on a safety bulletin board) should be filled out if you're involved in: a near midair collision (NMAC), a less than standard separation incident, a situation whereby communications or navigation aids contributed to a hazardous air traffic situation, or whenever an event, system, publication, directive, or procedure did, or could have contributed to, a hazardous air traffic situation. Also, report any event (including ground vehicle operations) on airport runways or taxiways that actually endanger an aircraft in the air or on the ground. Once you determine the incident is reportable, timeliness is essential in preserving evidence.

A report must be filed within 24 hours, using any means of communications available, at the base ops or safety office at the arrival airport. At overseas locations or civilian bases, filing may be difficult. If you need assistance, contact your unit safety office or the nearest USAF safety office. This assistance may be obtained through command and control channels.

Jack did several things that significantly aided the follow-on investigation. First, he advised approach control a near miss had occurred. Second, he stated his intention to file a written report after landing. Finally, he notified command and control of the incident and requested a flight safety representative meet his aircraft. His actions ensured preservation of crucial air traffic control evidence and timely investigation. The flight safety officer was able to obtain "the story" firsthand and assist with filing.

So, once you fill out the paperwork, what happens then? An investigation is conducted by a flight safety officer, or if civil aircraft or ATC services are involved, the FAA or host nation conducts a separate investigation. The investigator's final report provides a narrative description of the hazardous condition, any special factors involved, a summary of investigative actions, conclusions, and preventive actions taken. The report is then reviewed by appropriate functional managers at NAF, MAC, AFCC, and AFISC. Corrective actions can result in changes to air traffic control procedures, flight planning documents, training procedures, or airspace designations. Incidents are tracked to identify adverse trends and problem areas.

MAC's experience last summer, as depicted in Figure 1, highlighted an adverse trend in near-midair collisions. This prompted a command-wide review and reemphasis of unit Midair Collision Avoidance (MACA) programs. As vividly illustrated in the graph, we experienced a significant increase during the summer months. This increase was attributed to good flying weather resulting in increased air traffic. FAA also reported an increase in near-midair collisions for 1987, up 26 percent over 1986.

With incident frequency increasing, aircrews must be aware of common NMAC characteristics. Analysis of MAC's experience revealed some common ingredients for potential collisions:

- Day VMC.
- VFR verses IFR aircraft.
- General aviation aircraft.
- Controlled airspace.
- Below 5,000 ft AGL.

FAA statistics reveal the following states had the most NMACs last year:

• California	262
• Florida	88
• Texas	86
• Arizona	49
• New York	39

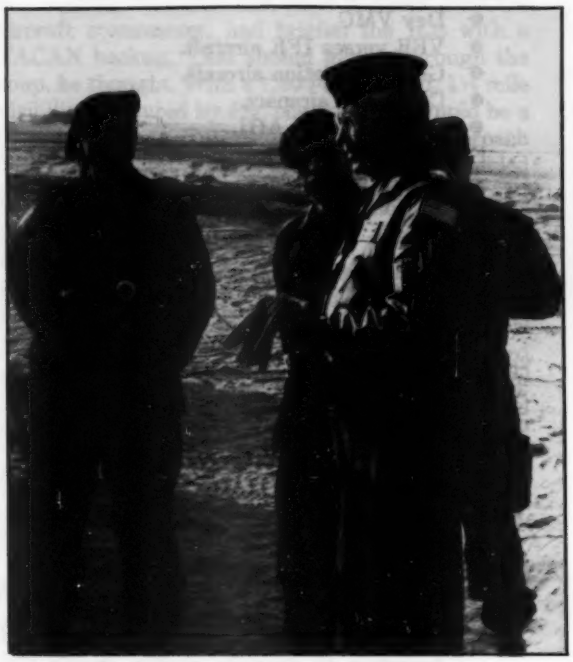
Aircrews can take measures to decrease their chances of becoming involved in a HATR incident. A combination of the following actions can significantly reduce your chances of an encounter:

- Prioritize scanning and eliminate nonessential duties and tasks during arrival and departure.
- Minimize flight time below 5,000 ft AGL by delaying descent or expediting climb.
- Listen for potential traffic conflicts during ATC transmissions.
- Reduce airspeed during arrival and departure to decrease closure speeds and increase reaction time.
- Don't rely solely on ATC traffic advisories for conflicting traffic; not all aircraft appear on radar and ATC issues traffic advisories on a workload permitting basis.
- Use landing and taxi lights, even during daylight to increase visibility.
- Be particularly vigilant when operating near TCAs, TRSAs, or ATAs. NMACs frequently occur at the borders of designated airspace.

The bottom line is to *avoid* a hazardous air traffic situation. But if you find yourself involved, be sure to file an airborne report with ATC stating the incident occurred and your intention to file a written report. Follow-up, after landing, with a written report and notify command post and your safety office. ATC information is time sensitive and timely notification is essential to preserve evidence. After that, let the investigators sort out what caused it. Keep up that scan and fly safe. ★

TEAM SPIRIT

Teamwork in Action



First sign of TEAM SPIRIT next to the ramp at Osan greeting TEAM SPIRIT participants.

COMALF Brig. Gen. William H. Sistrunk briefing MAC Tactical Airlift Liaison Officers at Yoju prior to start of TEAM SPIRIT.

"On the road again"—that familiar verse is fast becoming the *TMF* motto as we hit the dusty trail once more—this time to Korea and TEAM SPIRIT. I made my way to Osan AB, Korea, via stops in Chicago, Oakland, Travis AFB, California, and Elmendorf AFB, Alaska. After settling into my luxurious digs in Osan's "tent city," complete with cot and sleeping bag, I attempted to recover from a severe case of jet lag and await the first important event on the agenda—an interview with TEAM SPIRIT's COMALF—Brig. Gen. William H. Sistrunk. We got together one bright morning to discuss MAC's role in TEAM SPIRIT.

TMF—General Sistrunk, what do you believe is the most important aspect of TEAM SPIRIT for MAC?

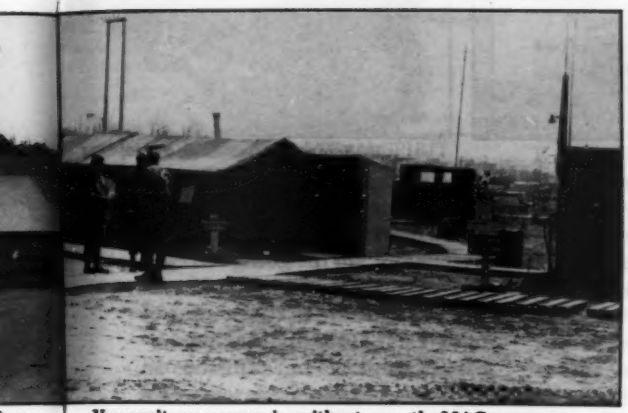
General Sistrunk—Well, MAC gets the opportunity to participate in a very large exercise with minimum simulations and gain experience in conducting our wartime mission. TEAM SPIRIT is one of the largest, if not the largest, joint/combined exercise we have, and MAC plays a big part. We deploy a provisional C-130 wing into Kimhae AB. That gives us an opportunity to provide intratheater airlift for the exercise period. At the same time, during each TEAM SPIRIT, we learn better ways of providing intertheater airlift—strat airlift. I believe it's one of the best exercises for realistic training that MAC participates in. The strategic airdrop may not be what will actually happen in Korea, but it's a possibility. It demonstrates what we can do in the concept of long range troop deployment.

TMF—What's your greatest concern as COMALF for this year's TEAM SPIRIT?

General Sistrunk—I think you know safety is always a great concern of mine. It was a great concern of mine last year and it's my everyday concern now as we try to

'88

By Maj. Thomas C. Weinzierl
Supervising Editor



You can't run an exercise without one—the MAC passenger terminal at Pohang.

"Beauteous Butch"—Korean War ace Capt. Joseph McConnell's F-86 exemplifies the U.S.' long standing commitment to Korea.

be sure we not only meet our training needs but also provide good service to the customer—that's the Army, the ROKAF, the ROK Army, and other participants. We're trying to do what they want. Safety is terribly important in that effort. We have to do it safely or we shouldn't be flying.

TMF—There are obviously a lot of pressures and demands on crews in any operation. How can crews best balance exercise demands against safety?

General Sistrunk—Any crew with a tasking should first of all know its own limits. The tasking here in Korea is probably more difficult than other places they've flown. We notice it in airdrop operations, in coping with complex air route structures, and difficult terrain. The best advice I can give to crewmembers is to plan their mission well, to not take a lot of things for granted. They must deconflict their flights with all other traffic in country. If they plan well and determine the tasking may be something they're not capable of doing safely, they should say *they can't do it.* We haven't had much of that over here. It has to be an integrated, deconflicted plan, otherwise we might expect trouble.

TMF—What's your advice to crewmembers new to flying in Korea or the Far East?

General Sistrunk—I touched on that a little in the previous answer. They need to realize, number one, it's probably different flying than what they're used to. In addition to what I've said already, I'd advise them to be sure they know *how* to fly in Korea. South Koreans are very much aware of North Korea's presence. This creates tensions, concern, and control of airspace, and more restrictions that otherwise would not be present. We must learn to fly in that environment and do it safely.

TMF—How about the language problem? Does that present a greater problem in Korea than other areas in which MAC operates?

General Sistrunk—I don't think so. Not anymore than other places where we fly. But when you combine the language problem and poor quality radio transmissions, it could increase the safety problem. People need to be aware of that.

TMF—What do you believe will be the greatest obstacle to safety for this year's TEAM SPIRIT?

General Sistrunk—I would suggest two things: weather and high density air traffic. Weather obviously is a big factor in making airdrops. Just being able to see the area we're flying into is a great advantage. When fighters and

Over the DZ at Yoju after a long flight.

A C-130 from the 317 TAW, Clark AB, PI, taxis to the Yoju ramp.

ROK Marines deplaning at Yoju in

On the PI at Yoju.

"Herky Haven," MAC's newest Air Force Base at Yoju, built by ATC!

bombers criss-cross your path, maybe at your altitude, you stand a good chance of being unsafe. A tremendous number of sorties are generated daily by TAC and navy fighters; even SAC B-52s fly in and out of country, and we must deconflict all that with the airlift mission. So, I'd say weather and air traffic are my biggest concerns. Last year we thought we had deconflicted our mass airdrop flights, but a B-52 flew right through our pattern. Air traffic control to the Koreans is a very serious business because they want to control the air in the event something happens up north. We have everything we need to blend together a good integrated/deconflicted plan. But below 400-500 ft over here it's anybody's game—that's where the Army flies its choppers. If you have somebody flying that low or lower, there's no way to deconflict against the Army traffic. That's their airspace. Additionally, the Koreans have put up wires and power lines across valleys that weren't there last year. All of this could impact safety, particularly if you're flying low level. You have to be extremely careful if you're down low.

I think it should come off well. If the weather cooperates a lot, it should help people avoid other traffic and get our drops off.

TMF—Any final comments, general?

General Sistrunk—This is my second year as COMALF and I consider it a real privilege to be able to come over and participate in TEAM SPIRIT. I think the exercise is one of the finest I've ever seen, especially in terms of realism and gaining experience in our wartime job. I respect the Korean people and their attitude toward our presence here, an attitude of assistance and cooperation. In the last couple of years I've gotten to know some of their military people. I respect and appreciate them and consider them my friends. Through their friendship we're going to get improvement for airlift in Korea. The Koreans are in the process of buying C-130s to update their airlift capability in addition to improving the location where we beddown our C-130s. We should end up with additional hard surface to park our airplanes in the future. I worked this issue hard and think we're going to see it done in the future.

TMF—Thank you, General Sistrunk.

* * *

The trip to Osan gave me the opportunity to visit the Korean Airlift Control Center, or KALCC. Talking to Lt. Col. Steve Bridges, KALCC Director, I learned the KALCC is basically a mini numbered air force, complete with most of the agencies you'd find in a larger organization. They have Weather, Communications, a Logistics Resource Center, and an Aerial Port Control Center, all providing continuous coordination for theater airlift and medevac.

Like most major exercises, TEAM SPIRIT employs every facet of the airlift system, including strategic airlift C-5s and C-141s, tactical airlift C-130s, and

u in preparation for the start of TEAM SPIRIT.

civil airliners used to transport the vast majority of troops to the theater. In theater, the majority of the load is carried by C-130s augmented by Republic of Korea C-54s and C-123s. This year's exercise tasked all capabilities of the venerable Herk, calling for six heavy equipment drops, 146 CDS bundles, 4 LAPES (low altitude parachute extraction system), 338 people, 2 NEACDS (Navy Emergency Acquisition Container Delivery System) drops to Navy ships offshore, highway landings with fuel bladders on board to refuel A-10s, CDS blood drops to the Army and Navy, leaflet drops, medical evacuation, special ops augmentation, etc.

All this activity, with the addition of fighters, bombers, tankers, and Army and Air Force helicopters in a mostly mountainous country only the size of Ohio, has to present some unique safety problems. I discussed this with Maj. Ed Luedeking, KALCC Director of Operations and Safety Officer. "A lot of people aren't familiar with Korea," he said. "There are restricted areas they don't know about, and it takes coordination with the Koreans to get through the hot areas." Koreans take air traffic control *very* seriously, as I found during a tour of the Tactical Air Control Center adjacent to the KALCC. American and Korean controllers were keeping careful watch over air traffic in South Korea, and *exceedingly* careful watch over North Korean air traffic. Not a bad idea when you can count the minutes of flying time from the border to Seoul and Osan in single digits.

Some of the other problems Major Luedeking and I discussed were unlit ramps at several Korean airfields, coordination problems between the U.S. and Korea due to the time (i.e. day/night) difference, and the high traffic volume TEAM SPIRIT generates. One of the more unusual problems is caused by dust blown in from the Asian continent. The dust, called *Lhose,* is blown over Korea from the deserts of Asia, causing a constant haze and visibility restriction, definitely a hazard in such a mountainous country.

The country's ruggedness was brought home to me when I accompanied Maj. Sterling Parker and Capt. Steve Phelps on an operational support airlift mission from Osan to Kunsan AB on Korea's west coast, to Pohang AB on the east coast and back to Osan. The haze made picture-taking impractical, and I could see where the mountains could make low-level flying a risky adventure.

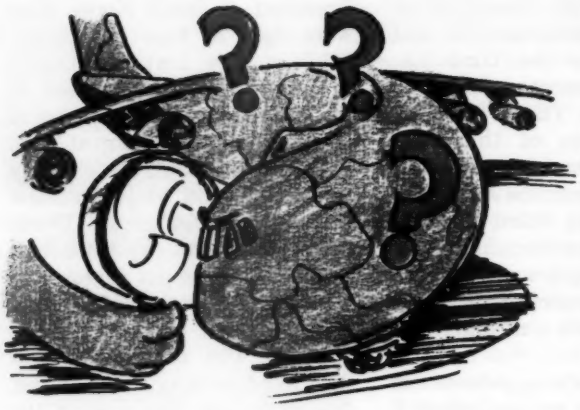
While at Pohang, we saw CINCMAC, Gen. Duane H. Cassidy, wearing his CINCTRANSCOM hat, arrive in a C-21 for a tour of Marine and Navy operations at Pohang. General Cassidy was given a tour of the *MV 1st Lt. Jack Loomis,* a 600-ft long Military Sealift Command Maritime Pre-Positioning Ship. The ship supports Marine Amphibious Forces and can be moved, on short notice, to locations in the Pacific theater to have rolling stock and other equipment available when the Marines arrive. It can also run a hose 2 miles to the beach to supply fuel to keep the Marines rolling along. Quite a gas station!

To wind up the trip, I journeyed to Yoju drop zone to witness the strategic airdrop. Six C-141s, which had departed McChord AFB, Washington, and Eielson AFB, Alaska, airdropped troops after an air-refueled flight from the States. But for a few minutes delay, caused by vectoring around a flight carrying the President of South Korea, they were right on time and target. While at Yoju, I watched C-130s bringing in ROK Marines in preparation for the beginning of the exercise. On the ramp at Yoju, I spoke with SMSgt. Clyde Gowdy from the 463d Organizational Maintenance Squadron, Dyess AFB, Texas. He explained how steel planking is put together to form a runway and parking ramp, and how civil engineers laid a 3,500 x 100 ft runway and associated parking ramp in just two days. He also praised the young troops, on the ramp with him, marshalling airplanes and keeping troops and rolling stock moving. Instrument technicians, engine mechanics, and electricians, as well as other troops from the 463d's Field and Organizational Squadrons, were doing an outstanding job keeping missions moving safely.

That's what really struck me the most during this trip—the total team effort it takes to conduct an exercise of this size. I saw people from ATC, SAC, TAC, AFLC, PACAF, Navy, Army, and Marines, working together to get the job done. It certainly reinforces the notion that we have to keep a broad perspective and not get wrapped up only in our "piece of the action." In the end, just as on a MAC aircrew, our business boils down to *teamwork, because none of us can win a war alone—we need the other guy and he needs us.*

QUICKSTOPPERS

UNSETTLING GEAR SITUATION



On departure from an island location, the C-141 crew heard two loud bangs as the gear was raised. The scanner reported the right main landing gear had stopped midway through the retract cycle, but there was no visible damage. The crew discussed the condition and gear was extended and pinned. They declared an emergency, and the aircraft was flown to a divert base. After landing, the plane was downloaded and prepared for towing. During the tow operation, however, the aircraft further settled on the support struts. At this point, the aircraft was placed on jacks. Close examination showed the frame on the right main gear had broken on both the inboard and outboard sides at the attach link assembly connecting points. Colorations around the crack suggest the defect may have been present for some time. How many preflight and postflight inspections missed that one?

HIGH FLYING HYPOXIA

The C-130 was barreling its way up to FL 200 when the copilot experienced dizziness and felt a slight numbness in his fingers. He reported his symptoms to the rest of the crew. The cabin pressure altimeter read 17,000 ft and the pilot directed the crew to go on oxygen while he initiated descent to 10,000 ft MSL. Other crewmembers on board had not felt significant indications of hypoxia, although the pilot did notice an increase in his visual acuity once on oxygen. Estimated time spent above 10,000 ft was about 7 minutes. The flight engineer determined the pressure controller had failed in the automatic mode, so he repressurized using manual operation as the flight continued to home station at 10,000 feet. Maintenance discovered a loose bleed air line on the outflow valve jet pump. A couple of obvious lessons for aircrew in this one: monitor cabin altitude during climbout, and remember those altitude chamber hypoxia symptoms—they could save you from an unintentional "high flight!"

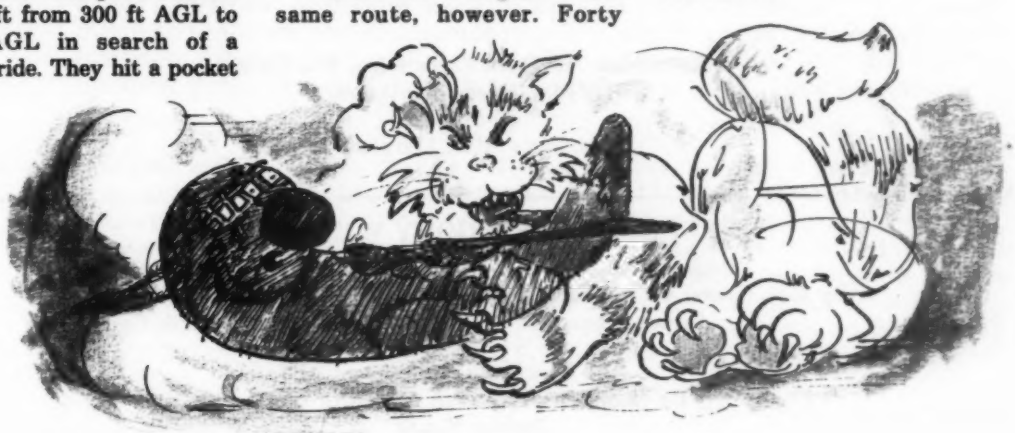
DON'T STUFF IT!

Following some corrosion control work, the C-130 crew chief and several other maintenance types searched in vain for a pair of missing inlet duct covers. They found spare covers and installed them, further concealing the original covers stuffed deep inside the inlets. Later, in preparation for flight, the spare covers were removed using poles and the aircrew preflighted. After engine start, number 2 engine compressor stalled. The engine was shut down and written up. Post flight inspectors found the original covers inside the inlets and further inspection revealed damage from ingestion of brass hooks and bungee cords from the inlet covers. Preventive action taken eliminates use of poles for cover removal, insuring a visual check of the inlets. Let's keep the laundry out of those intakes!

CAT GOT HIS TOE

The C-130 embarked on a low level route for airdrop. Some turbulence caused the CDS parachute bundle to shift, so one of the loadmasters told the pilot he would go back and readjust the chute bundle. The pilot climbed the aircraft from 300 ft AGL to 800 ft AGL in search of a smoother ride. They hit a pocket of clear air turbulence (CAT), which caused the bundle to become airborne. It landed precisely on the loadmaster's right foot. The flight surgeon later diagnosed a fractured fourth digit and big toe on the injured foot, which got the loadmaster two lost workdays and DNIF status.

There was a sequel on the same route, however. Forty minutes after the first flight, a three-ship of C-130s flying the same route encountered turbulence, which caused the lead navigator and an observer sprained ankles and the flight engineer a bump on the head. Let others know about any invisible CAT sharing your airspace on those low level routes!



THE WINNERS

1988 MAC FLIGHT SAFETY WRITING CONTEST

First Place

"A Flirt With Disaster"
By Lt. Col. Louis Hari
907 TAG (AFRES)
Rickenbacker ANGB, Ohio

Second Place

"Moon Rocks"
By Maj. Robert A. Stettler
1550 TCHTS
Kirtland AFB, New Mexico

Third Place

"Flying With 'Shack'"
By Maj. Lucian A. Dade
86 FTS
Laughlin AFB, Texas

HONORABLE MENTION WINNERS

"On Top of the World"
By Capt. Paul E. Kent
313 MAS (Assoc)
McChord AFB, Washington

"Sun and Fun in Florida"
By Maj. Gary L. Jackson
Det 3, 625 MASG
Hellenikon AB, Greece

"Reflections at Dusk"
By MSgt. Larry Koewing
3 MAS
Dover AFB, Delaware

"A Major Memory"
By Lt. Col. James P. Bronowski
452 AREFW (AFRES)
March AFB, California

"Winning Isn't Everything"
By SMSgt. Tim E. Bridgeman
179 TAG (ANG)
Mansfield, Ohio

"A Scroll in the Dark"
By Capt. Donald L. Rosenberry
374 TAW
Yokota AB, Japan

"Some Things Never Change"
By Capt. Philip A. Bossert, Jr,
18 MAS
McGuire AFB, New Jersey

"The Cottonwood Caper"
By TSgt. Elmer R. Leonhardt
118 RMS (ANG)
Nashville, Tennessee

"Remember The Hard Facts When You Circle"
By Maj. Hector R. Alvarez
89 MAW
Andrews AFB, Maryland

SPECIAL CATEGORY WINNERS

"Retired with Honor"
By Maj. Grover C. Tate, Jr. USAF (Ret)
Joshua, Texas

"Words of Wisdom"
By Mr. James B. Zazas
Carthage, North Carolina

"An Unwanted Assignment"
By Maj. Grover C. Tate, Jr. USAF (Ret)
Joshua, Texas

After Deadlines

SECRETARY OF DEFENSE FRANK C. CARLUCCI sent a hearty *Well Done* to military members stressing the military's importance in protecting this nation's vital interests and supporting its diplomatic objectives worldwide. In addition to complimenting the "quiet professionalism of our military forces" in the Persian Gulf, the Secretary praised Army and Air Force quick response to developments in Central America.

C-130 REAR VISION DEVICE (BUBBLE) is being acquired for MAC and MAC-gained units. The 360-degree field of view bubble mounted in the forward-overhead escape hatch can significantly enhance the Herc's survivability in a threat environment. Each bubble costs approximately $700. The first 156 will be built by the 438 MAW fabrication shop--60 for active units, and 54 and 42 for ANG and AFRES units respectively. The first five were finished in April, and a production rate of about four per month will follow. They will be shipped one at a time to each unit as they are built.

DO NOT MISS *FLYING SAFETY* MAGAZINE'S MAY 88 ARTICLE "LOW LEVEL AND BIG AIRCRAFT"!!! It's absolutely exceptional reading about structural considerations during low level flight. If you thought Dash One structural limitations were actually well below actual metal failure limits, before you kill yourself and crew, read this article. The life you save may well be your own.

MAC AIRLIFTERS DROPPED OVER 5,800 PERSONNEL, 610 TONS OF HEAVY CARGO, AND 113 TONS of equipment packaged in cargo delivery systems during Exercise Market Square. Sponsored by the Army's 82d Airborne Division, this two-week exercise employed active and reserve MAC C-5s, C-141s, and C-130s. MAC aircraft also delivered more than 1,300 tons of cargo.

THE SPECIAL OPERATIONS AIRCREW INTEGRATION PROGRAM (SOAIP) was held at Kirtland AFB, New Mexico, in May. The "no frills" program gets all AF special operators together with the expressed purpose of learning each other's mission, and how each integrates with the other. The week involved seminars, product demonstrations, and flight demos so each could broaden their particular horizon. *TMF* attended also, and during the upcoming months, we'll share this information with all. Look for it soon!

WE'LL NEED ONE MORE--Editor, that is! We need someone to be a proud editor of the world's best flight safety magazine, *The MAC Flyer*. The job is exciting, challenging, and rewarding. When asked what you do for a living, your answer, "I'm an editor on *The MAC Flyer* staff" is received with an appreciative "Aaaaah!" We're looking for a rated major/captain with a strong desire to write. Flight safety experience, although not essential, is a plus. If interested, contact Major Tom Weinzierl, Supervising Editor, HQ MAC/IGFE, Scott AFB, Illinois, 62225-5101, call AV 576-3534/5542 or (618) 256-3534.

U.S. GPO: 1988-554-015/80008

Tom Laughlin